

Amendment Under 37 C.F.R. § 1.111  
Appln. No.: 10/018,790

**REMARKS**

Claims 1-30 are all the claims pending in the application.

**I. The Information Disclosure Statement**

The Examiner crossed FR 2739863 off the PTO Form 1449, stating that no translation or statement of relevance was filed.

FR 2739863 was listed on the International Search Report as an "A" reference. The listing on the International Search Report and the category designation are sufficient as a "statement of relevance" for foreign language documents. See MPEP 609 III.A(3).

The receipt of the International Search Report and the International Preliminary Examination Report were acknowledged by the USPTO in PTO FORM PCT/DO/EO/903 (371 Acceptance Notice). However, for the convenience of the Examiner, attached is a copy of the International Search Report (and PTO FORM PCT/DO/EO/903 (371 Acceptance Notice)).

In view of the above, Applicants respectfully request that the Examiner acknowledge and consider FR 2739863.

**II. The Rejections Under §112, first paragraph**

**A. Claims 13 and 24**

Claims 13 and 24 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement.

The Examiner states that claims 13 and 24 contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the Examiner states that "[i]t is not known whether the cited average molecular mass is weight average, number average, viscosity average, peak average or Z average molecular mass."

Applicants respectfully submit that the present specification provides a fully enabling disclosure for the invention, as claimed, and that the disclosure would enable one of ordinary skill in the art to make and use the invention, as claimed, without undue experimentation. Applicants request that the Examiner reconsider and withdraw the §112, first paragraph, rejection in view of the following remarks.

Claims 13 and 24 recite "average molecular masses by weight." Therefore, it is clear that the type of average molecular weight is calculated by weight. However, for the purposes of clarity only, claims 13 and 24 have been amended to recite "weight average molecular weight".

#### **B. Claims 13 and 24**

Claims 1-13 and 21-24 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement.

The Examiner states that the specification is enabling for a unsaturated polymer being dispersed in bitumen and then crosslinked and/or functionalized, but does not reasonably provide enablement for merely dispersing an already crosslinked and/or functionalized polymer in bitumen. The Examiner states that "shredded vulcanized tires being dispersed in the blend of

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oxidized and straight run bitumen" is an example of a method that the Examiner does not consider as part of Applicants' invention (and not enabled).

Applicants respectfully submit that the present specification provides a fully enabling disclosure for the invention, as claimed, and that the disclosure would enable one of ordinary skill in the art to make and use the invention, as claimed, without undue experimentation. Applicants request that the Examiner reconsider and withdraw the §112, first paragraph, rejection in view of the following remarks.

Applicants respectfully submit that one skilled in the art would be sufficiently knowledgeable to make and use a crosslinked and/or functionalized polymer being dispersed in bitumen from the knowledge in the art and from Applicants' specification. However, claim 1 has been amended to clarify the language and to more particularly point out and distinctly claim Applicants' invention. The amendment to claim 1 indicates that crosslinking and/or functionalization occurs when the precursor elastomer is mixed with the bituminous matrix.

Additionally, clarifying amendments have been made to the claims for clarity and to more positively recite the claimed embodiments.

For the above reasons, it is respectfully submitted that Applicants' claims are clear and definite and fully enabled by the specification as originally filed and it is requested that the rejections under 35 U.S.C. §112 be reconsidered and withdrawn.

**III. The Rejections Under 35 USC § 102**

Claim 1-29 are rejected under 35 U.S.C. §102(a) as allegedly being anticipated by Exxon Research and Engineering Company, EP 0559462 ("Exxon"), or Cosmo Oil Co Ltd., JP-09-95616 ("Cosmo").

The Examiner states that Exxon describes bituminous compositions used as a binder for road surfaces, where the compositions contain neutral mixtures of oxidized bitumen and a polymer functionalized by an acid function. The Examiner also states that in Exxon the term "oxidized bitumen" means any mixture of oxidized bitumen and non-oxidized bitumen (Exxon, page 3, line 58, page 4, line 1).

The Examiner Particularly notes the methods of making disclosed by Exxon and particularly notes Examples 2 and 3. As to Cosmo, the Examiner merely notes the modified bituminous composition disclosed in Cosmo. The Examiner concludes that Applicants' claims are not novel in view of Exxon and Cosmo.

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Exxon or Cosmo and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Applicants' claimed invention relates to a method for preparing a cross-linked and/or functionalized bitumen/polymer composition having a low susceptibility to temperature, comprising forming under agitation, a homogenous mass comprising a bituminous matrix in which is uniformly dispersed a precursor elastomer, and crosslinking and/or functionalizing said precursor elastomer to form said cross-linked and/or functionalized bitumen/polymer composition. See, for example, claim 1.

In Example 2 of Exxon, Zinc-sulfonated EPDM was mixed with an asphalt mixture. In Example 3, Zinc-sulfonated EPDM (the polymer was separately neutralized) was mixed with a coating grade asphalt. Examples 2 and 3 are the examples particularly cited by the Examiner. Neither example crosslinks or functionalizes the polymer in the asphalt mixture. Likewise with the other Examples of Exxon. Exxon does not teach or disclose crosslinking and/or functionalizing a precursor elastomer which is uniformly dispersed in a bituminous matrix to form a cross-linked and/or functionalized bitumen/polymer composition.

Similar to Exxon, the Abstract of Cosmo discloses to add a thermoplastic elastomer (styrene-butadiene-styrene block copolymer) to an asphalt composition. The Abstract of Cosmo does not teach or disclose crosslinking and/or functionalizing a precursor elastomer which is uniformly dispersed in a bituminous matrix to form a cross-linked and/or functionalized bitumen/polymer composition.

Additionally, the Examiner has not mentioned how the teachings of Exxon and Cosmo relate to the claimed embodiments of the dependent claims.

For the above reasons, it is respectfully submitted that the subject matter of claims 1-29 is neither taught by nor made obvious from the disclosures of Exxon or Cosmo and it is requested that the rejection under 35 U.S.C. §102(a) be reconsidered and withdrawn.

#### **IV. The Rejections Under 35 USC § 103**

Claims 1-29 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Exxon or Cosmo in view of Gelles et al (5,189,083) or Kluttz (5,278,207).

The Examiner states that Gelles et al disclose a blend of oxidized and straight run bitumens (Gelles et al, column 3, lines 17-20), functionalized polymers (Gelles et al, column 4, lines 12-26), crosslinking (Gelles et al, columns 7 and 8), molecular weights (Gelles et al, column 7, lines 38-47), concentrations (Gelles et al, column 6, lines 14-28) and conditions (Gelles et al, the Examples).

The Examiner states that the disclosures of Kluttz are similar to those of Gelles et al.

The Examiner also states that Gelles et al and Kluttz fail to teach the claimed ratio of oxidized to straight run bitumen, however, the Examiner concludes that Gelles et al and Kluttz show that all the process steps claimed by Applicants would have been obvious to one having ordinary skill in the art, at the time the invention was made.

Applicants respectfully submit that the present invention is not obvious over the disclosures of Exxon or Cosmo in view of Gelles et al or Kluttz and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

The Examiner has merely noted that Exxon and Cosmo have been previously discussed in the Office Action and that the secondary references disclose functionalized or crosslinked polymers for use in bitumen. The Examiner has not provided any motivation to combine the disclosures of the secondary references with the disclosures of Exxon or Cosmo.

Further, the Examiner has not set forth any explanation as to why one skilled in the art would modify the polymers and asphalt compositions of Exxon and Cosmo to use a different type of polymer, such as one disclosed in Gelles et al or Kluttz. That is, the Examiner has not set forth why one skilled in the art would substitute the polymers disclosed in Exxon or Cosmo with

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polymers that are crosslinked and functionalized polymers. It is known in the art that crosslinked and functionalized polymers have different properties than non-crosslinked and non-functionalized polymers and that they may not be readily interchangeable. At best, the Examiner is stating that it would have been obvious to try other polymers in the methods of Exxon or Cosmo. However, the standard of patentability is not "obvious to try." In re Fine, 5 USPQ2d 1596 (Fed. Cir. 1988). Rather, it is a higher standard. There must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant. Teachings of references can be combined only if there is some suggestion or incentive to do so. In re Lee, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

For the above reasons, it is respectfully submitted that the subject matter of claims 1-29 is neither taught by nor made obvious from the disclosures of Exxon or Cosmo in view of Gelles et al or Kluttz and it is requested that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

#### V. Conclusion

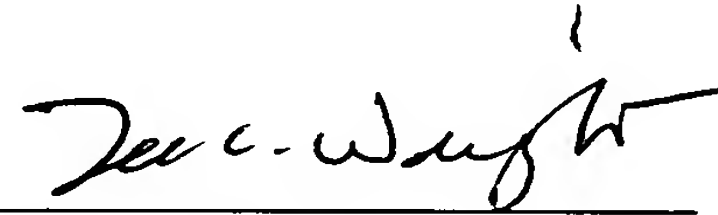
In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejections under 35 U.S.C. §112 and the rejections under 35 U.S.C. §102 and §103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

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Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

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